

ABSTRACT

Disclosed is a Fe-Ga-P-C-B-Si based metallic glass alloy particle prepared by a gas atomizing process, which has an approximately complete spherical shape, a relatively large
5 particle size and a high crystallization temperature (T_x). The plurality of particles may be subjected to a spark plasma sintering process at the crystallization temperature or less under a compression pressure of 200 MPa or more, to provide a bulk Fe-based sintered metal soft magnetic material of metallic glass, which has a high density, a single phase structure of metallic glass in an as-sintered state, excellent soft magnetic characteristics applicable to a core of a
10 magnetic head, a transformer or a motor, and a high specific resistance.